

# BUILDING PRODUCTS INFORMATION SHEET

## PURLINS (MSS, MZ, MC) TOPHATS & FLOOR JOISTS



CLASS 1

VERSION 1.0 ISSUE DATE: DECEMBER 2023

### PRODUCT NAME

Metalcraft products includes the following products:

As per Material Specifications

### PRODUCT LINE

N/A

### PRODUCT DESCRIPTION AND ITS INTENDED USE

#### MSS PURLINS, GIRTS, MC SECTIONS, MZ PURLINS WITH THE CAMLOK™ OR STANDARD BRACING

MSS Purlin and Girts, MC Sections, MZ Purlins with the Camlok™ or Standard Bracing system are designed for use as a bolted framework system used with primary structural steel work. They are supplied cut to length and can be pre-punched with a variety of holes to suit a number of applications. Purlins, Girts and Bracing are rollformed to provide an efficient, lightweight support system for roofing and wall cladding and are recognised as being efficient, economical structural members suitable for a wide range of building applications.

The Camlok™ Purlin Bracing system provides a complete, efficient, cost effective and easily erected system. MSS Purlin and Girts, and MC Sections, MZ Purlins complete with either Camlok™ or Standard Bracing systems and components are a complete system, supplied ready for erection and will require minimal maintenance throughout the life of the building. The Z275 galvanised finish on the purlins and bracing systems, give an excellent corrosion protection and reduces the need for painting. MSS Purlin and Girts, MC Sections, Bracing systems and MS Tophats, comply with New Zealand Building Code, and are designed to AS/NZS 4600:2005 Cold formed steel structures.

MS Tophats can be used for roof purlins, wall girts and floor joists, and are an economic option for these and other applications. They are an economical alternative to timber and 'C' section purlins for spans up to 7 meters.

Easy to use they fasten directly to their supports which eliminates the requirements for cleats. Being symmetrical there is no requirements for braces or nogs to prevent twisting and allows the profile to be easily lapped for maximum performance. MS Tophats are manufactured from high strength galvanised steel coil, the Z275 minimum coating provides good protection in most exposed internal environments. Consideration should be given when used in a lined exterior dwelling. Thermal breaks are required between the tophat and cladding to avoid thermal bridging. Contact with materials not compatible with zinc should be avoided.

### BPIS INCLUSION / EXCLUSION

This BPIS includes Metalcraft Structural products as per in Material Specifications.

#### MSS PURLINS AND GIRTS, MC SECTIONS, MZ PURLINS WITH THE CAMLOK™ OR STANDARD BRACING

##### INTENDED USE:

The intended use is for roof purlins, and wall girts, supported by main structural elements, such as rafters and columns, and providing support for the fixing of the cladding system.

MS Tophats are cold formed steel, open section, structural members, of customisable layout for length.

The intended use is for roof purlins, and wall girts, supported by main structural elements, such as rafters and columns, and providing support for the fixing of the cladding system.

### PRODUCT IDENTIFIER

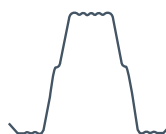
MSS PURLINS AND FLOOR JOISTS



MC PURLINS



TOPHATS



MZ PURLINS



## MATERIAL SPECIFICATIONS

The galvanised coating used on the steel to manufacture MSS Purlins and Girts, MC Sections, MZ Purlins, Bracing Systems and MS Tophats is designed for internal use only. The coating must be kept clear of corrosive environments and should not be used in contact with chemically treated timber or other treated products in the presence of moisture. If there is evidence of damage to the coating, the area should be cleaned and spot primed to the suppliers specifications.

Product	Steel Grade Thickness	Base Metal mm	Zinc Weight
MSS Sections	G500 (Mpa)	<1.5	275 gm/m <sup>2</sup>
MC Sections	G500 (Mpa)	<1.5	275 gm/m <sup>2</sup>
MZ Purlins	G500 (Mpa)	<1.5	275 gm/m <sup>2</sup>
MSS Sections	G450 (Mpa)	>1.5	275 gm/m <sup>2</sup>
MC Sections	G450 (Mpa)	>1.5	275 gm/m <sup>2</sup>
MZ Purlins	G450 (Mpa)	>1.5	275 gm/m <sup>2</sup>
Bracing	G250 (Mpa)	1.15	275 gm/m <sup>2</sup>
Sag Rod		12mm Dia 6mm Dia	Zinc Plate to AS1789 or Galv to AS1640
Tophat	G550 (Mpa)	<1.00	275 gm/m <sup>2</sup>
Tophat	G500 (Mpa)	>1.00 <1.5	275 gm/m <sup>2</sup>
Tophat	G450 (Mpa)	>1.5 <2.25	275 gm/m <sup>2</sup>

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RELEVANT BUILDING CODE CLAUSES:

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**B1 STRUCTURE:**

B1.3.1, B1.3.2, B1.3.3 (a, b, c, f, g, h), B1.3.4 (d, e)

**B2 DURABILITY:**

B2.3.1 (a), B2.3.2 (b)

**F2 HAZARDOUS BUILDING MATERIALS**

F2.3.1

STATEMENT ON HOW THE BUILDING PRODUCT IS EXPECTED TO CONTRIBUTE TO COMPLIANCE:

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**B1.3.1, B1.3.2, B1.3.3 (a, b, c, f, g, h), B1.3.4 (d, e)**

Metalcraft MSS Purlins, MZ Purlins, Girts, MC Sections, Bracing Systems and MS Tophats are accurately roll-formed from the specified grade of steel, thus ensuring that they achieve the stated performance.

MSS, MC, MZ and MS Tophat cold formed steel sections have been designed with consideration of Clause B1/VM1: cl. 5.2

MSS, MC, MZ and MS Tophat cold formed steel sections have been designed to AS/NZS 4600.

Steel grades for the base metal roll are either 250MPa, 450MPa, 500MPa, or 550MPa depending on thickness as per AS 1397 as tabled in AS/NZS 4600.

Where these products are used within the bounds of Metalcraft's design literature, they are expected to perform adequately as purlins and girts, loaded in the strong axis, or loaded axially.

Refer to Metalcraft Structural Design Guide on <https://www.metalcraftgroup.co.nz/>

**B2.3.1 (a), B2.3.2 (b)**

Metalcraft Roofing's MSS Purlins, Girts, MC Sections, MZ Purlins, Bracing Systems and MS Tophats will meet a service life of up to 50 years. Compliance with the conditions stated in the New Zealand Steel Durability Statement will ensure that the durability requirements of NZBC Approved Document B2 are satisfied.

MSS, MC, and MS Tophat cold formed steel sections have been produced with consideration of Clause B2/AS1: cl. 3.6.1

- Steel surface protection systems for the MSS, MC and MS Tophats are in accordance with SNZ TS 3404.
- It is intended that the galvanised coating will provide protection to the member provided they are kept free from moisture. Where the members are not free from moisture, or are in corrosive environments, the design Engineer, or similarly qualified practitioner, will take into consideration the specific durability requirements and provide steel surface protection system specification.

Care should be taken to ensure no contact with corrosive materials, or appropriate separation is made between dissimilar metals, including those used in timber preservation treatments.

Refer Durability Statement from NZ Steel : <https://www.metalcraftgroup.co.nz/>

**F2.3.1**

GALVSTEEL® will meet the performance requirements of F2, 2.3.1.

#### LIMITATIONS ON THE USE OF THE BUILDING PRODUCT:

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- Members should be used within the bounds of Metalcraft's product literature, unless supported by design from a suitably qualified design Engineer.
- Members are typically not designed to be loaded in the weak axis and separate structural systems shall be included to take loads in that plane.
- MSS, MC, and MS Tophats are designed as a system with appropriate bridging between members, and should be specified as a complete system. Where these members are to be adopted as part of a mixed system i.e. alternate bridging, non-standard support arrangements, these shall be designed as appropriate by a suitably qualified design Engineer.

#### INSTALLATION REQUIREMENTS

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Refer to Metalcraft Roofing Structural Guide for details, and standard industry best practice.

#### MAINTENANCE REQUIREMENTS

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Refer to Metalcraft Roofing Structural Guide for details, and standard industry best practice.

#### IS THE BUILDING PRODUCT/BUILDING PRODUCT LINE SUBJECT TO A WARNING OR BAN UNDER SECTION 26 OF THE BUILDING ACT 2004:

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**NO**

Metalcraft Roofing's Structural products are not subject to a warning or ban under the Building Act 2004.

#### DESIGN REQUIREMENTS THAT WOULD SUPPORT THE APPROPRIATE USE OF THE BUILDING PRODUCT

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- MSS, MC, and MS Tophats are typically adopted as cladding support members in commercial and industrial structures, where weight and material efficiency is a key consideration.
- Where a Design Engineer or suitably qualified person determines a design loading condition or combination that is less than the load limit provided in the product literature, these cold formed steel products will perform their function as direct cladding support.

#### SUPPORTING INFORMATION

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The following documents can support demonstration of compliance of Metalcraft Roofing's Structural products with the NZ Building Code.

Building Act 2004

[www.legislation.govt.nz](http://www.legislation.govt.nz)

Cited standards

[www.standards.govt.nz](http://www.standards.govt.nz)

Metalcraft Roofing's Structural Guide  
Metalcraft Roofing's Sectional Details.  
Metalcraft Eco Choice Certification.

Download from:

[www.metalcraftgroup.co.nz](http://www.metalcraftgroup.co.nz)

New Zealand Steel's Quality management system conforming to ISO 9001:2015 and assessed by Telarc.

New Zealand's Steel's Environmental Management system conforming to ISO 14001:2015

[www.nzsteel.co.nz](http://www.nzsteel.co.nz)

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## PLACE OF MANUFACTURE

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### NEW ZEALAND

Manufactured from the following Metalcraft Roofing branches and available nationwide from all Metalcraft Roofing branches.

METALCRAFT ROOFING -AUCKLAND EAST TAMAKI  
24-26 Trugood Drive East Tamaki, Auckland  
09 273 2820  
orders.akl@metalcraftroofing.co.nz

METALCRAFT ROOFING -CHRISTCHURCH  
85 Columbia Ave, Hornby, Christchurch  
03 349 7350  
sales.christchurch@metalcraftroofing.co.nz

## OTHER METALCRAFT BRANCHES THAT CAN SUPPLY

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METALCRAFT ROOFING -WHANGAREI  
42-44 Rewa Rewa Road, Whangarei  
09 470 0870  
sales.whangarei@metalcraftroofing.co.nz

METALCRAFT ROOFING - AUCKLAND HOBSONVILLE  
25 -27 Westpoint Drive, Hobsonville, Auckland  
09 444 1813  
orders.ns@metalcraftroofing.co.nz

METALCRAFT ROOFING -HAMILTON  
9 Earthmover Cres, Burbush, Hamilton  
07 849 3807  
sales.hamilton@metalcraftroofing.co.nz

METALCRAFT ROOFING -TAURANGA  
42 Poturi St, Tauriko, Tauranga  
07 575 7032  
sales.tauranga@metalcraftroofing.co.nz

METALCRAFT ROOFING -NEW PLYMOUTH  
218 De Havilland Drive, Bell Block, New Plymouth  
06 755 2113  
sales.newplymouth@metalcraftroofing.co.nz

METALCRAFT ROOFING -PALMERSTON NORTH  
76 Malden Street, Palmerston North  
06 358 9149  
sales.palmerston@metalcraftroofing.co.nz

METALCRAFT ROOFING -HASTINGS  
1454A Omaha Road, Hastings  
06 873 9020  
sales.hastings@metalcraftroofing.co.nz

METALCRAFT ROOFING -ROTORUA  
15 Monokia Street, Rotorua  
07 350 1138  
sales.rotorua@metalcraftroofing.co.nz

METALCRAFT ROOFING -WELLINGTON  
201 Gracefield Rd, Seaview, Lower Hutt  
04 566 2253  
orders.wgtn@metalcraftroofing.co.nz

METALCRAFT ROOFING -CROMWELL  
20 McNulty Road, Cromwell  
03 445 4180  
sales.cromwell@metalcraftroofing.co.nz

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LEGAL ENTITIES:

**STEEL BUILDING PRODUCTS CENTRAL LIMITED**

NZBN: 9429032296389

Level 1, 30 Highbrook Drive, East Tamaki Auckland

TRADING NAME / ADDRESS FOR SERVICE:

Metalcraft Roofing - Hamilton

Metalcraft Roofing - New Plymouth

**STEEL BUILDING PRODUCTS NORTHERN LIMITED**

NZBN: 9429032461398

TRADING NAME / ADDRESS FOR SERVICE:

Level 1, 30 Highbrook Drive, East Tamaki Auckland

Metalcraft Roofing - East Tamaki

**STEEL BUILDING PRODUCTS SOUTHERN LIMITED**

NZBN: 9429036306183

Level 1, 30 Highbrook Drive, East Tamaki Auckland

Metalcraft Roofing - Hastings

Metalcraft Roofing - Palmerston North

Metalcraft Roofing - Wellington

**STEEL BUILDING PRODUCTS SOUTH ISLAND LIMITED**

NZBN: 9429032296303

Level 1, 30 Highbrook Drive, East Tamaki Auckland

Metalcraft Roofing - Hastings

Metalcraft Roofing - Palmerston North

Metalcraft Roofing - Wellington

**METAL LINE ROOFING LIMITED**

NZBN: 9429031709583

Level 1, 30 Highbrook Drive, East Tamaki Auckland

Metalcraft Roofing - Hobsonville

Metalcraft Roofing - Rotorua

Metalcraft Roofing - Tauranga

STEEL SOURCED FROM

New Zealand Steel Ltd, 131 Mission Bush Road Glenbrook  
2681, Auckland New Zealand

[www.nzsteel.co.nz](http://www.nzsteel.co.nz)

DISCLAIMER

This Building Product Information Sheet must be read in conjunction with all cited documents.

Metalcraft Roofing states that the product will, if installed in accordance with the technical data, specifications, and advice prescribed by Metalcraft Roofing comply with the relevant provisions of the building code and satisfy our obligation to meet S14G of the Building Act 2004.

It remains the responsibility of all other professional parties to ensure they satisfy their own obligation of the Building Act 2004.

As part of Metalcraft Roofing's policy of continued improvement, final specifications may vary from those contained in this publication. The company reserves the right at any time and without notice to change the design, materials or features and withdraw products from the market without incurring any liability whatsoever.



LICENSE NUMBER: 5717145



Metalcraft Roofing are members of the Roofing Association, New Zealand and the New Zealand Metal Roofing Manufacturers Incorporated.